

NOTES ON THE ALPHEIDS IN WHITE'S
LIST OF THE SPECIMENS OF CRUSTACEA IN
THE COLLECTIONS OF THE BRITISH MUSEUM
(1847)

By ALBERT H. BANNER & DORA M. BANNER

IN 1847 the British Museum published anonymously a catalogue of the specimens of crustaceans then found in the Museum's collections; the authorship was that of Adam White (see Miers, 1874 : 4, 5). The catalogue was a mere listing of generic and specific names, without descriptions or figures, but giving locality and donor or collector. Under the family name of Alpheidae he listed 16 species of the genus *Alpheus*, one species of the genus *Athanas* as well as species under the generic names of *Alope*, *Atya* and *Nika*; these notes concern themselves only with the species listed under *Alpheus*. In this genus, 10 of the 16 species were given new names, but as they were without 'a description, definition or indication' they are *nomina nuda*. In 1874 Miers published the section of 'Crustacea' in *The Zoology of the Voyage of the H.M.S. Erebus & Terror . . .* and used the lithographic plates prepared many years before under the direction of White for the 7 species that he indicated would be described in the publications of the voyage.* For these species Miers added his own notes and at times a short description. Kingsley (1882) listed all species mentioned by White and for some he also gave additional descriptions, but often did not cite White's collection record. Bate (1888 : 543-544) also referred to two of White's names and Miers' determinations, but it is difficult to determine what he did except to confuse and reverse Miers' determinations.

During a recent visit to the British Museum (Natural History) we had made available to us both the publications of White and Miers and the collections upon which they were based. All of White's specimens were preserved as dried specimens upon pins, similar to specimens in standard insect collections. During the course of almost a century and a half many of the desiccated specimens had fallen apart, lost their legs, fallen off their pins and were in general in a condition that would make exact identification difficult or impossible. Moreover, in many instances the label cards were also loose. However, in some cases exact identification was possible because the specimens were surprisingly intact, and some specimens were identifiable because of the possession of a unique characteristic such as the dactylus of the third legs in *Alpheus lottini* Guérin, 1830.

* According to the narrative of the *Voyage of the Erebus & Terror* (vol. 1) while the ships did visit Tasmania and New Zealand, and 'a short visit to Sydney', they did not visit tropical Australian waters. It is not known why White chose to include tropical Australian specimens given by various donors under the reports of the voyage.

As the publication of White is rare and not available to most workers, we have decided to publish Miers' (1874) and our own determinations of the species listed by White, together with some additional notes. The quotations below are from White in the order of his listing.

'*Alpheus ventrosus*, Edw. Crust. ii. 352.

a-g. Indian Ocean. From Mr. Gardiner's collection.'

Three specimens remaining in fair condition, but all lacking small chela. They are certainly not *A. ventrosus* Milne-Edwards, 1837 (= *A. lottini* Guérin) which is in the Macrochirus Group. They are in the Edwardsi Group, but the species cannot be identified without the small chelae. Kingsley (1882) does not cite White's record.

'*Alpheus Neptunus*, n. s. Zool. Erebus and Terror, t. f.

a. Port Essington. Presented by the Earl of Derby.'

Specimen lacking both chelipeds. Miers (1874 : 4) reported this to be *A. edwardsi* (Audouin), 1827 and Kingsley (1882 : 120) accepts this synonymy. In the present fragmentary condition of this specimen we cannot confirm or deny this identification. The specimen certainly has no relationship to *Alpheus* (now *Synalpheus*) *neptunus* Dana, 1852, but as White had merely created, a *nomen nudum*, Dana's use of the name may stand. Port Essington is in Northern Territories, Australia.

'*Alpheus chiragricus*, Edw. Crust. ii. 354.

a, b. China. Presented by Gen. Th. Hardwicke.'

A pair of complete specimens. We find these are definitely not *A. chiragricus* Milne-Edwards, 1837, but *A. hoplocheles* Coutière, 1897 who also reported the species from Japan, China and the Indian Archipelago, but gave no specific locations.

'*Alpheus Triton*, n. s.

a. Indian Ocean. From Col. Whitehill's collection.'

Specimen complete except for small chela. This specimen is either *A. pacificus* Dana, 1852 or a closely related form. *A. pacificus* does occur in the Indian Ocean. The name is merely listed as a manuscript name by Kingsley (1882 : 126).

'*Alpheus Rhode*, n. s.

a. Philippine Islands. From the collection of Mr. Cuming.'

Specimens complete except for small chela. Miers (1874 : 5) determined this to be *A. strenuus* Dana, 1852 and the synonymy was accepted by Kingsley (1822 : 121). Without the small chela we can neither confirm nor deny Miers' identification. *A. strenuus* does occur in the Philippines.

'*Alpheus Amphitrite*, n. s.

a. Philippine Islands. From the collection of Mr. Cuming.'

Specimen badly broken, lacking thoracic legs and small chela. In the remaining characteristics, this specimen appears to be close to or identical with *A. euphrosyne* de Man, 1896 ; *A.*

euphosyne has not been recorded from the Philippines, but it could be expected to occur in the mangrove swamps of the archipelago. Kingsley (1882 : 125) listed this species as too imperfectly characterized to be recognized.

'*Alpheus Doris*, n. s. *Zool. Erebus and Terror*, t. f.

a, b. Torres Straits. Presented by J. B. Jukes, Esq.'

Specimen complete. This was determined by Miers to be *A. strenuus* Dana, 1852 which we confirm. Kingsley (1882 : 121) accepted this synonymy. Bate (1888 : 544) lists this species as a synonym of *A. avarus* Fabricius, 1798. This species is known from the Torres Straits and other Australian waters.

'*Alpheus heterochelis*, Say, *Journ. Acad. Sc. Phil.* i. 243? *Edw. Crust.* ii. 356?

a, b. . . . From the collection of Dr. Leach.'

Specimens lost.

'*Alpheus forceps*, n. s.

a. Pondichery [sic]. From the collection of the French Museum.'

Specimen lacking only a few thoracic legs. Henderson (1893 : 434), when he revived Fabricius' name *A. malabaricus*, stated 'In the British Museum is a specimen of our species from Pondicherry bearing a MS. name "*A. forceps*", White.' Coutière (1899 : 46, 49, 238) accepted this synonymy. From the parts remaining, we also agree with Henderson. Kingsley (1882 : 126) merely lists this as a manuscript name. *A. malabaricus* has a wide distribution in brackish water in South and Southeastern Asia.

'*Alpheus spinifrons*, *Edw. Crust.* ii. 355.

a. Chili. Presented by the Rev. Mr. Hennah.'

Specimen almost complete, lacking only several thoracic legs. This specimen is not *A. spinifrons* (now *Synalpheus spinifrons*) Milne-Edwards, 1837 that was described from the west coast of South America. In spite of the distortion of the orbital teeth and small chela from desiccation this specimen appears to be identical with a specimen in the spirit collection of the British Museum bearing the label 'Portland Bay, West Patagonia' (= Chile) taken by the *Alert* in 1870. This specimen was left unnamed by Miers (1881 : 74) but subsequently identified by Coutière (1899 : 34) and Holthuis (1952 : 48) as *A. dentipes* Guérin, 1832. As Holthuis (1952 : 48) has remarked, it is improbable that *A. dentipes*, known from the Mediterranean and Cape Verde Islands, would be found in the cold waters of Chile. Holthuis suggested that the locality label of the specimen in spirit might be in error. However, this dried specimen was 'presented by Rev. Mr. Hennah' sometime before 1847 also is clearly labelled as coming from Chile. It is almost too much to expect that both labels, written over 30 years apart, were equally in error. We suggest that a more careful study of new specimens from Chile is warranted.

'*Alpheus Alope*, n. s. *Zool. Erebus and Terror*, t. f.

a. N. Holland (Port Stephen). Presented by the Earl of Derby.'

Specimen lacking large and small chelae and most thoracic legs. Miers (1874 : 5) stated that the specimen was 'in too bad a condition to be distinctively characterized.' In spite of the

figure (1874 : Tab. 4, fig. 6) we agree. Kingsley (1882 : 126) states that this is one of those species whose 'descriptions are in works at present inaccessible to me'.

'Alpheus Thetis, n. s. *Zool. Erebus and Terror*, t. f.

a. N. Holland. Presented by the Entomological Club of London.'

Specimen lacking only large and small chela. Miers (1874 : 5) states that the specimens 'are in too imperfect a condition to be well distinguished . . .' but that '*A. thetis* resembles . . . *A. laevis* Randall . . .'. We found that the dactyli of the thoracic legs are of the unique development of *A. lottini* (previously *A. ventrosus* Milne-Edwards and *A. laevis* Randall), and other distinguishable characteristics remaining on the specimen are also in agreement with this species. *A. lottini* is well known from the coasts of Australia (Banner & Banner, in press). The picture is further complicated by Kingsley (1882 : 110) who stated that he had examined two specimens from New Zealand 'in the museum of the Academy of Natural Sciences of Philadelphia, presented by Dr. T. B. Wilson and labelled in Adam White's handwriting'. He then proceeds to give additional notes on some species that plainly is not *A. lottini*. For example, the palm of the large chela is sculptured and the first carpal article of the second leg is as long as the two following. We have been unable to find these specimens. From the description we cannot determine which New Zealand species that Kingsley is describing, but the matter is of no importance as the specimens are not the same as White's in the British Museum (Natural History).

'Alpheus Galathea, n. s. *Zool. Erebus and Terror*, t. f.

a. Port Essington. From the collection of Mr. Gould.'

Specimen completely lacking all thoracic appendages except the maxillipeds. Miers (1874 : 5) stated that this specimen also was too broken for identification and in spite of the illustration (1874 : Tab. 4, fig. 4) we agree. Kingsley (1882 : 126) lists this species as one where the descriptions are not available to him.

'Alpheus Doto, n. s. *Zool. Erebus and Terror*, t. f.

a-e. N. Holland, Sir C. Hardy's Island ; dredged in 11 fathoms. Presented by J. B. Jukes, Esq.'

Specimens presently lacking large and small chelipeds, but these were figured, albeit poorly, in Miers (1874 : Tab. 4, fig. 5). Miers (1874 : 5) gave a brief description of this species, so the name would be acceptable with Miers as the author. Coutière (1899 : 25) stated that '*A. doto* White . . . est sans doute synonyme de *A. socialis* Heller . . .'. We agree with Coutière on the basis of the unique lobe on the inferior margin of the second article of the third maxillipeds, the configuration of the rostral front, a long tooth on the basicerite, etc. We will discuss these characteristics, and the range of this and closely related new species in Part III of our Australian study. However, there are additional complications for Sir C. Hardy's Island is in the far northern portion of the Great Barrier Reef and none of the specimens of *A. socialis* in the Australian collections that we have examined were from tropical Australian waters.

'Alpheus minus, Say, *Journ. Acad. Sc. Phil.* i. 245.

a-c. East Florida. Presented by Thomas Say, Esq.'

Three specimens, all lacking antennules and antennae. The anterior regions and the telsons are typical of *Synalpheus minus* (Say), 1817. Since these specimens were given to the Museum by Say and identified by Say, we feel it is undoubtedly his species. Kingsley (1882 : 114) does not cite White's record.

'*Alpheus frontalis*, Edw. Crust. ii. 356. Cuv. R. A. (Croch), t. 53, f. 2.

a. Torres Straits. Presented by J. B. Jukes, Esq.'

Specimen lacking only small chela. This specimen is unmistakably *A. frontalis* Milne-Edwards, 1837 and the species is well known from the Torres Straits and other tropical Australian waters (Banner & Banner, in press). Kingsley (1882 : 123) does not cite White's record.

In conclusion, none of the new names proposed by White are valid on the basis of White's publication and those two subsequently described by Miers are junior synonyms ; of the six species of which White applied previously published and valid names, four were misidentified.

ACKNOWLEDGEMENTS

We wish to acknowledge the cooperation of the staff of the British Museum (Natural History), especially the aid of Dr Anthony Fincham and Mr Paul Clark. This work was supported in part by United States National Science Foundation Grant BMS74-11844.

REFERENCES

- ANONYMOUS [White, A.] 1847. *List of specimens of Crustacea in the collection of the British Museum*. pp. i-viii, 1-143. London.
- BANNER, D. M. & BANNER, A. H. In press. The Alpheid shrimp of Australia. Part III. The genus *Alpheus*, remaining genera and the family Ogyrididae. *Rec. Aust. Mus.*
- BATE, C. SPENCE, 1888. Report on the Crustacea Macrura collected by H.M.S. *Challenger* during the years 1873-76. *Rep. Voy. Challenger Zool.* **24** (1) : 1-942. [150 pls separate in **24** (2).] London.
- COUÏÈRE, H. 1897. Note sur quelques espèces du genre *Alpheus* du Musée de Leyde. *Notes Leyden Mus.* **19** (23) : 195-207.
- 1899. Les 'Alpheidae' morphologie externe et interne, formes larvaires, bionomie. *Annls Sci. nat., Zool.* **9** : 1-560.
- DANA, J. D. 1852. Crustacea. In *United States Exploring Expedition during the years 1838, 1839, 1840, 1841, 1842 under the command of Charles Wilkes, U.S.N.* **13** : pp. 1620. C. Sherman, Philadelphia.
- FABRICIUS, J. C. 1798. *Supplementum entomologiae systematicae*. 572 pp. Hafniae.
- HELLER, C. 1865. Crustacea. In *Reise der osterreichischen Fregatte Novara um die Erde in den Jahren 1857, 1858, 1859 unter den Befehlen des Commandore B. von Wullerstorff-Urbair*. *Zool.* **2** (3) : 1-280. Wien.
- HENDERSON, J. R. 1893. A contribution to Indian carcinology. *Trans. Linn. Soc. Lond.* **II**, **5** (10) : 325-458.
- HOLTHUIS, L. 1952. The Crustacea Decapoda Macrura of Chile. Reports of the Lund University Chile Expedition 1948-49. *K. fysiogr. Sällsk. Lund Förh.* **62** (10) : 1-109.
- KINGSLEY, J. S. 1882. Carcinological notes : Number V. *Bull. Essex Inst., Salem, Mass.* **14** : 105-132.
- MIERS, E. J. 1874. Crustacea. In S. Richardson & S. E. Gray, eds, *The Zoology of the Voyage of the H.M.S. Erebus and Terror, under the command of Captain Sir James Clark Ross, R.N., F.R.S., during the years 1839 to 1843 . . .* **2** : 1-5, pls 1-4. London.
- 1881. Crustacea. In *Account of the Crustacea collected during the survey of H.M.S. 'Alert' in the Straits of Magellan and on the Coast of Patagonia*. *Proc. zool. Soc. Lond.* **1881** : 61-79.

- MIERS, E. J. 1884. Crustacea. *In Report of the zoological collections made in the Indo-Pacific Oceans during the voyage of H.M.S. 'Alert'. 1881-2*, pp. 178-322, 513-575, pls 18-35, 46-52. London.
- MILNE-EDWARDS, H. 1837. *Histoire naturelle des Crustacés, comprenant l'anatomie, la physiologie et la classification de ces animaux* 2 : 1-532, atlas pp. 1-32, pls 1-42. Paris.

ALBERT H. BANNER, PH.D.
DORA M. BANNER, B.A.
Hawaii Institute of Marine Biology
UNIVERSITY OF HAWAII
P.O. BOX 1364
KANEOHE
HAWAII 96744
USA